On: 10 March 2015, At: 14:18
Publisher: Routledge
Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK

Royal United Services Institution. Journal
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rusi19

Sustaining and Lowering Ships' Quarter-Boats

Captain C. B. Simpson R.N.
Published online: 11 Sep 2009.

To cite this article: Captain C. B. Simpson R.N. (1868) Sustaining and Lowering Ships' Quarter-Boats, Royal United Services Institution. Journal, 11:47, 519-526, DOI: 10.1080/03071846809417316

To link to this article: http://dx.doi.org/10.1080/03071846809417316

The Journal

OF THE

Royal United Service Institution.

VOL. XI. 1868. No. XLVII.

LECTURE.

Friday, May 10th, 1867.

W. STIRLING LACON, Esq., in the Chair.

SUSTAINING AND LOWERING SHIPS' QUARTER-BOATS.

By Captain C. B. SIMPSON, R.N.

My position this afternoon—that of advocate in my own cause—is one so well understood by Members of this Institution, that I feel an apology to be superfluous. I will, therefore, at once proceed with the object I have in view, viz., that of introducing to your notice a plan for hoisting, sustaining, and lowering quarter-boats at sea; and by comparing it shortly with the modes at present in use on board Her Majesty's ships, endeavour to bring out the relative merits and defects of the different plans.

The plans at present in use are, Captain Kynaston's and Mr. Clifford's.

Captain Kynaston's plan will be best understood by reference to the drawing (Plate xli); and, as will be seen, it retains all the old arrangement of falls, grips, &c., simply substituting his disengaging hooks for the common hooks. The operation of lowering, in his case, is this:—On the boat being required, after the crew are in the boat, the grips have to be cast off, and the boat lowered by the falls in the ordinary way; a third man in the boat being required to attend the disengaging-line, which, when let go, disengages the boat. There are, therefore, after the grips are cast off, two, if not three men, necessarily employed in the operation of lowering. The principal objection, however, to the plan is, I think, its complication, and the number of moving parts dependent upon each other for safe and accurate working. For instance, there are no less than five different ropes, two falls, and three different parts of the disengaging lines, with four ends belayed to different cleats, any accident to any one

of which, by slipping, by carrying away, or by unequal lowering of the falls, or easing of the disengaging lines (which depend for their equality of working upon the freedom from rust and perfect order of no less than two sheaves and two bearings in each hook), would be the cause of serious accident.

In addition to which, notwithstanding the claim made to the contrary, I consider these hooks to be most clumsy and difficult to handle for hooking on in a sea-way; it is true that when once hooked, and the lines hauled taut, and the relieving-bolt in, that the boat will not again become unhooked; but two men are required to each hook to perform this operation, one to attend the hook, and the other the disengaging line, and I think the following paragraph, from Captain Kynaston's paper of explanations, will convey some idea of the difficulty likely to follow from the necessity of requiring two men to take the boat at the right bob simultaneously.

The hooks for hoisting boats should be always attached to the boat's slings—never to the tackles. Any one who has been bobbing about in a boat, under a ship's davits, vainly endeavouring to hook her on in a sea-way, can speak feelingly of the risk a boat and her crew have to encounter at every surge, from the playful sallies and tenacious grip of the hooks, when fitted in the usual manner to the boat's tackles. To disengage suddenly, under such circumstances, from a ship moving through the water, or indeed when stationary would be fraught with the greatest danger, whatever kind of hook be made use of.

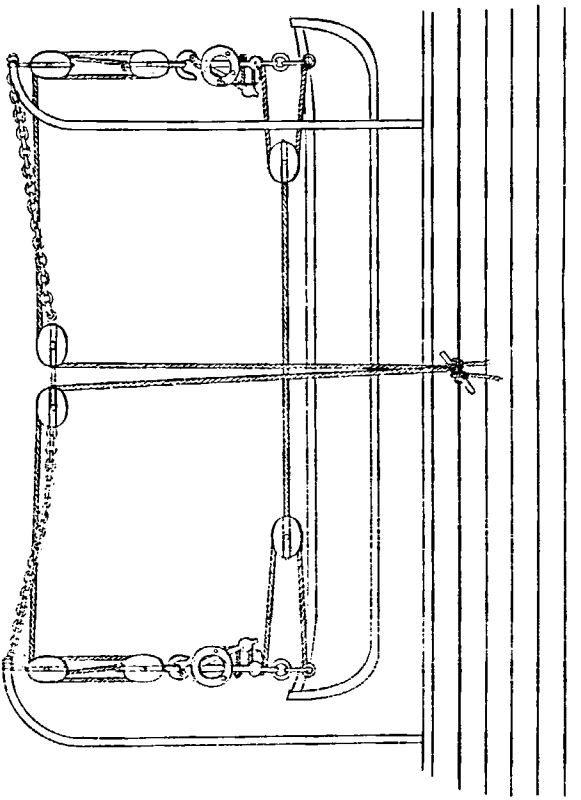
Mr. Clifford's plan, as shown in Plate xlii, is as follows:—A roller is fitted in the centre of the boat, which works freely in bearings at each side of the boat under one of the thwarts; to this roller a rope is made fast, and wound on it to a length equal to the distance the boat will have to descend from the davits to the water. Two single ropes or pendants are made fast to the davit-ends, and rove through the three-sheaved blocks attached to the boat-slings, then through the leading blocks at the bottom of the boat, and the ends of each are entered through the same hole in the roller, but in opposite directions. By hauling on the lowering-line, before mentioned, which is wound on the roller, the pendants will be wound on the roller to the same extent that the lowering-line is unwound. The three-sheaved blocks act so as to nip the pendants, breaking the strain to the man lowering, and giving him control over the descent of the boat, whatever its weight may be. The nip of the three-sheaved blocks only exists so long as there is any strain on the pendants passing through it, and ceases on the lowering-line being let go on the boat reaching the water.

The grip is made in two parts, with thimbles at each end, and held together by a lanyard.

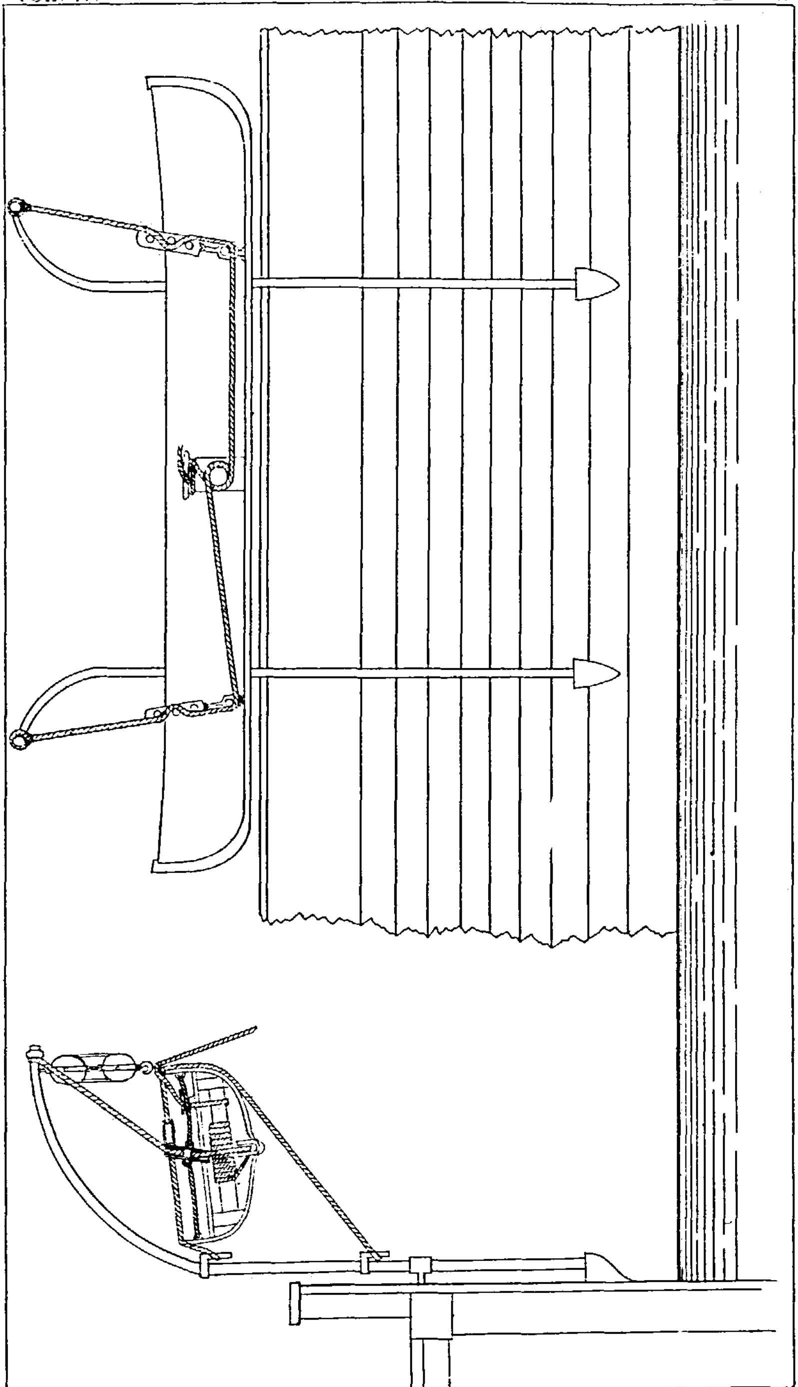
When the boat is hanging on the pendants, the grips are passed round the boat, and the thimbles are passed up the prongs attached to the davits for that purpose, the lanyard is then hauled taut, and thus the boat is secured to the ship's side.

When the boat is lowered, the thimbles slip down the prongs, and the boat is free.

Here, I think, we have a great advantage, at any rate as far as the lowering is concerned; for though there are still three different ropes



J. Jebbins.



J. Jobbins

employed in the operation of lowering, an accident to any one of which would be fatal, yet they are all under the control of one man, and he has only to perform one operation in lowering the boat, viz., to ease away the lowering-line, and if the tapered pendants will always unreeve clear from the roller, the plan, as I said before, as far as the simple lowering is concerned, is excellent. But I still venture to think that there are serious objections to the plan as a whole.

Firstly, the space occupied in the boat by the roller, interferes materially with the boat's stowage, and there is the chance of fouling the pendants when lowering, if the bottom of the boat is not kept clear.

Secondly, I believe the plan of the grips to be most injurious to the boat, and dangerous to the crew when lowering.

A few words will explain what I mean.

It is evidently not only advantageous, but absolutely necessary, that the davits should be made to carry the boat as far out from the ship's side as possible, to prevent, as far as may be, her being stove when being lowered or hoisted in a sea-way. It will also be seen, that if the least play is allowed to the boat by the grips, the latter, if the ship rolls at all heavily, will become unhooked, consequently it is necessary for the boat's safety, that she should be bound by the grips taut up against the davits, so as to preclude all play; but the result of doing this is, that in a short time the gunwale of the boat becomes completely crushed in by the grips, and the boat is rendered useless. This statement may appear an exaggeration, but I can answer for its having been the case in the last vessel I commanded, and also am informed that it was the case with several others on the same station.

These grips are also dangerous; for if, when the boat is bound up against the davits, as before stated, the lowering-line is eased away, the boat, when the grips slip off the spurs, will swing violently outward, especially if the ship is rolling heavily at the time, and the send of the ship happens to coincide with the swing of the boat; and if the boat is not rapidly lowered, so as to reach the water before she returns towards the ship, she is in great danger of being stove against the side.

Thirdly, there is not only no advance on the old plan of hoisting up, but there is a serious additional drawback in the length of time that the boat must necessarily hang unsecured after hoisting, whilst the pendants are being rove, and the tedious operation of a second hoisting is going on, this being rendered necessary in order to get the pendants sufficiently taut to hang the boat the required height.

It was my practical experience of the defects in the plans I have shortly put before you, that induced me to try and devise some plan that should obviate them. The result of my endeavours I will now bring before you. I must ask you, however, gentlemen, not to expect perfection; no doubt if I have succeeded in obviating some of their defects, I shall have introduced others; but I shall be satisfied if the relative advantages of my plan outweigh, in however small a degree, its disadvantages.

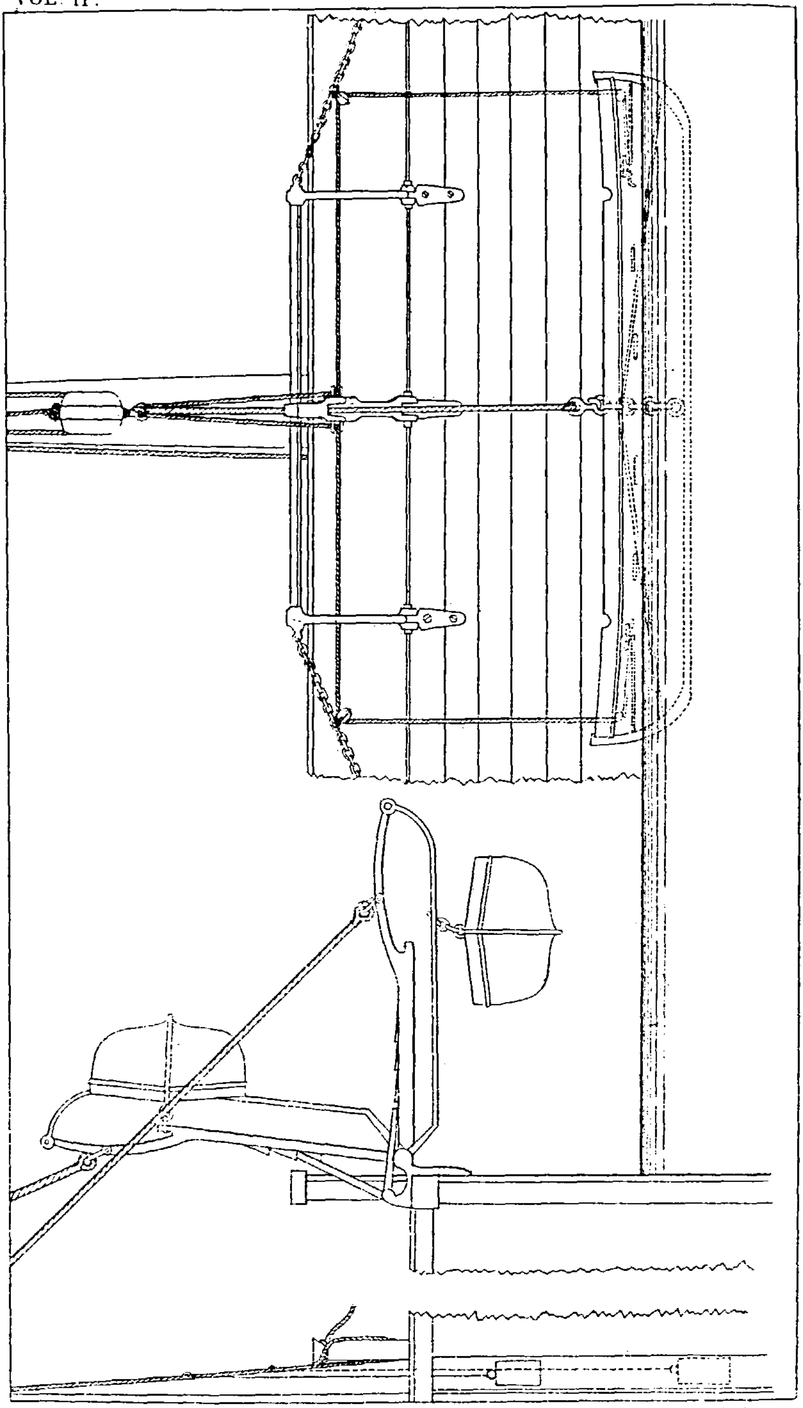
My plan (see Plates xliii, xliv) consists of three arms or davits combined, and acting in one frame, these arms are each jointed to brackets

or knees fixed to the side of the ship, and are placed at equal distances apart. The joints of all three being in the same horizontal line, the davits are free to describe a semicircular arc; that is to say, they may fall down against the outside of the ship, and be raised upwards and inclined inboard over the bulwark. The middle arm is the strongest of the three, having to support the principal weight of the boat, which is supported therefrom by a straight hook, or spur-like projection, or tongue, formed on the under side of it, about two-thirds out. The other, and extreme arms, are each in one of the forms shown in the drawing; the plain straight one being intended for small vessels, where the davits will not be required to be lowered below the horizontal. The other, applicable to large vessels, having their outer ends formed as portions or segments of a circle, round which the gunwale of the boat glides when the davits are lowered beyond the horizontal; the boat is thus in both cases kept firmly in the horizontal position until the ring attached to the boat's slings, by which she is suspended, slips off the spur by reason of its incline, when the boat is free. The extreme ends of the arms are connected by a suitable tie-rod, so that all three arms move together on their hinges as one frame, and the whole is raised or lowered by a single rope or chain attached to the centre arm, led up to the mast or other standard over a pully, and down to the deck to a point where it can be eased away with certainty and facility. A counterweight, sliding freely in a tube placed up and down the mizen-mast below the deck, as shown in the drawing (Plate xliii), is attached to this chain or pendant, acting upon it within certain limits, so as to ease the descent of the boat, and to raise the davits, immediately they are relieved from the weight of the boat, to the hoisting position.

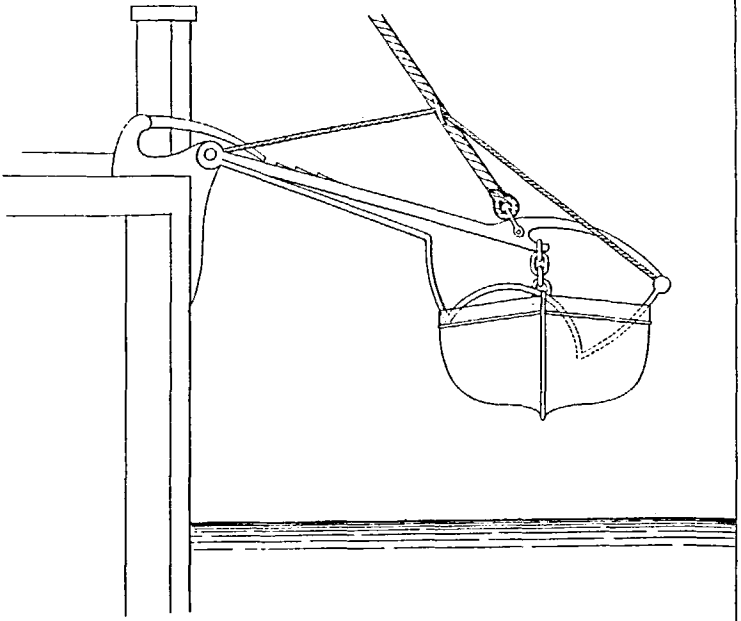
A sheave is fitted in the centre arm, near the position of the supporting hook, or spur, over which sheave a rope or pendant is rove, for the purpose of hoisting the boat into position, to be supported by the davits. Thus both, when hoisting, and when the boat is in position, the davits act as a derrick to keep the boat out from the ship's side, the weight of the boat being almost entirely thrown upon the mast or standard.

The boat is suspended by longitudinal and cross slings from either end and side of the boat, which are secured to a ring, and slung amidships, the whole terminating in a single ring, or hook, by which the boat is hooked on to the lifting pendant. A second ring is connected with the slings, which is to be placed on the hook, or spur, before mentioned, and by which the boat is wholly supported when fixed in position. The slings supporting the boat have a part carried down to the keel of the boat, by which the more direct weight is supported.

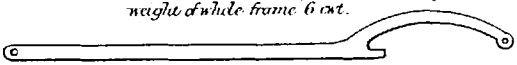
The hook or spur which supports the boat is made either to project in a line with the mid-arm, or is inclined a little to its plane, according as it is determined to detach the boat before the davits arrive at, or after they have passed beyond, the horizontal position. On each side of the central arm also, abreast the sheave before mentioned, are two small rollers, underneath which two steadying lines, which are spliced into the upper eye of the hoisting pendant, are rove, and led through



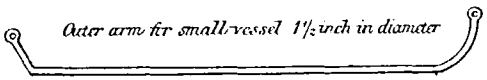
J. Jobbins.



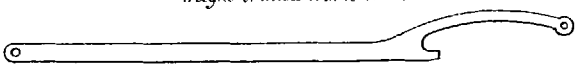
Centre Davit for small vessel, 4 inches by 3. whole length 10 feet.
weight of whole frame 6 cwt.



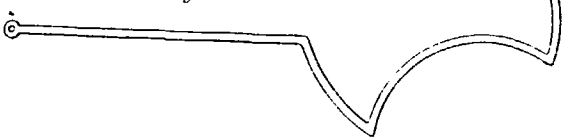
Outer arm for small vessel 1½ inch in diameter



Centre davit for large vessel, 5 inches by 4. whole length 12 feet.
weight of whole frame 10 cwt.



Outer arm for large vessel, 2 inches in diameter



Common davit circular, 5 inches in diameter between points a & b, tapered to 3½ in.
weight of one davit 9 cwt.

b a

J. Jobbins

blocks on the fore and aft guys, so as to plumb the bow and stern of the boat, so that when hoisting, as soon as the hoisting pendant is hooked and hauled taut, the steadying lines, which have been previously rove through small eyes or blocks at the bow and stern of the boat, are hauled taut, and a turn taken with them. The boat will then be hoisted steadily out of the water, all three ropes rising exactly at the same speed, until the gunwale comes in contact with the extreme davit arms, when the ring before mentioned is placed over the spur on the central davit. The hoisting pendant is then slacked up and unhooked, and the steadying lines unrove from the boat, when she will be firmly secured to the davits by her own weight, without the aid of grips, and be ready for lowering.

Grooved chocks are fitted on the inside of the gunwales of the boat to receive the extreme davit arms, and prevent any motion being given to the boat by the pitching of the ship.

Teeth are provided on the mid-arm, and a paul, by which the position of the davit frame is regulated.

When it is desired to lower the boat, it is simply necessary to ease away the single supporting rope or chain, so as to lower the davit frame outwards, until it reaches a certain predetermined position, when the ring supporting the boat from the hook or spur will slip therefrom by reason of its inclination, while the boat will be free to fall into the water, and this without the possibility of mischance.

I think it will now be sufficient for me to point out shortly some of the advantages I believe my plan to embrace, and hold myself in readiness to answer, as best I may, the objections to it that may occur to my hearers.

1stly. There are no extra fittings or gear in the boat to interfere with the stowage.

2ndly. That there are no grips to cast off.

3rdly. That in lowering there is only one operation to be performed, by one man, viz., easing away the topping lift, and this not amongst a confused heap of men just bundled in the boat, as in Clifford's case, but on the deck of the ship, apart from all confusion.

4thly. That the boat is kept rigidly in position on the davits up to the moment of her release.

5thly. That from the fact of her being attached from one central point only, there cannot possibly be any irregularity in the operation of lowering, but that the boat must fall into the water on an even keel, neither will the motion of the ship (except to a small extent, to be hereafter explained) alter the predetermined height from the water at which the boat is to be freed.

6thly. That *no plug* is required; the boat is cleared of water by simply topping the davits.

7thly. That the boat is carried by the action of the davits when lowering completely clear of the ship's side.

8thly. That the davits will, in hoisting, keep the boat so far from the ship's side, and, from being nearer to the water when in position for hoisting than the old davits, give the boat so much less play as to preclude the possibility of her being stove.

And, lastly, from there being only one single hook to hook on for hoisting, the danger and delay from first one fall and then the other becoming unhooked, and the necessity of keeping the falls clear of turns is avoided.

I wish to call special attention to the hoisting, as I believe that by the adoption of my plan, hundreds, if not thousands a-year, would be saved to the country which are now spent in the repair of boats, stove in hoisting; besides the inconvenience and delay to the service thereby entailed.

Before concluding I must refer to one important point. I have said "neither will the motion of the ship, except to a small extent, alter "the predetermined height from the water at which the boat is to be "freed."

Now, it is evident that if the davits could be hinged to the centre of motion of the ship that no variation could take place in the predetermined height from the water at which the boat is to be freed; whatever the list or rolling motion of the ship might be, that height would remain the same, whether the boat were brought to it by lowering the davits, by the inclination or roll of the ship, or by both combined.

But unfortunately the davits cannot be hinged to that point, but must be hinged to the side of the ship. What then will be the effect of this?

I will take an example to illustrate it. Supposing a ship of 36 feet beam abreast the mizenmast to have her davits hinged to the side 10 feet above the water line, a list of 15 degrees will elevate the davits on one side about 5 feet higher above the water than when she is upright, and bring the other, or opposite, davits the same distance nearer to the water level. Now, suppose the tongue or spur on the davit from which the boat is suspended to be placed at such an angle as to free the boat when the ship is on an even keel, 5 feet above the level of the water, we should have, when the ship is heeling 15 degrees, to drop the weather boat 10 feet, and the lee boat would be freed just as her keel touched the water.

If the ship was rolling 15 degrees each way, either boat would be freed at some intermediate point between these extremes.

Now, taking for granted, as I do, that a maximum drop of five feet for a boat, could never cause her the slightest injury, all that we have to do, is to place some permanent stop on the topping lift, by means of a toggle, or any simple plan, so as to preclude the possibility of the davits being lowered beyond the position they would have to attain, in order to free the boat when the ship is upright; and to make the rule, that when under sail with a steady list, the lee boat is to be used. The boat will then be invariably freed at some intermediate point between the water line and five feet above it; and be it remembered, that no error in judgment in the man lowering can alter this—his judgment has nothing to do with it, and the boat will be lowered with the same ease and safety on the darkest night as in broad day.

It may, however, be asked, suppose the ship to have a steady list of more than 15 degrees, what would be the result?

I would answer, that in our example we have the keel of the boat

only brought on a level with the water with a heel of 15 degrees, and that the ship will be required to heel some 20 degrees before the boat will be sufficiently buoyant, by reason of her immersion, to prevent the davits descending to the required angle to free her. Also, that unless the water is as smooth as this table, a minimum heel of 20 degrees can hardly be conceived, especially in the present days of undermasting; but even if such a case could occur, the boat would almost invariably be released on striking the water, even if the davits had not reached the required angle, and in any case, no harm could happen to the boat or crew, for as long as the boat is attached by the ring to the davits she is kept firmly in position by them, and by reason of the counter-weight will float far more lightly and buoyantly on the water than if free, and consequently will tow in that position with perfect safety; and if (as, however, is impossible) the ship should not right sufficiently to free the boat, by simply pulling up the topping-lift the boat will be hoisted into position again, and secured. The boat will in such a case have failed in her object certainly, but she will have sustained no injury, and the crew will be safe.

I think I have now touched upon all important points, except perhaps those of weight and expense.

The weight of the davits in my plan will, I think, certainly be less than that of the present ones. Firstly. For the reason before stated, that the centre arm, the only part of the davit which bears any of the weight of the boat, acts simply as a derrick, and is in no case subject to any cross strain, the outer arms acting simply as guides and steadying bars to keep the boat in position. Secondly, that the length of the davit arms need only be about half the length of those at present in use in small vessels. For instance, in the example before us, I would propose that the extreme length of the davits should be ten feet. This would drop and hoist the boat 7 feet clear of the ship's side, and carry her, when topped up, a clear 15 feet above the water.

In point of expense, I do not anticipate any material difference from the present methods.

The CHAIRMAN: I should like to ask Captain Simpson whether he has tried this plan practically; whether he has fitted it to any ship.

Captain SIMPSON: No, I have not; I have only tried it on a small scale.

The CHAIRMAN: You spoke of the ship's davits being only ten feet in height above the water; are not line-of-battle ships' davits very much higher out than that?

Captain SIMPSON: I think the days of line-of-battle ships are rather gone by; but, of course, the higher the vessel, the longer she would require the davit to be. The length of the davit would have to be proportioned to the height of the ship out of water. If the davit were fixed only about 10 feet in height above the water, the length of the davit would be 10 feet; if it was needed 14 feet in height, its length would have to be 14 feet. A davit only 10 feet in length will carry its boat 15 feet above water.

The CHAIRMAN: Supposing you had an order from the Admiralty to

fit your plan to one of their largest ships, where would you fit your davits?

Captain SIMPSON: So as to drop the boat about six feet from the water.

The CHAIRMAN: Would not your davits come very low down?

Captain SIMPSON: Not necessarily. It depends upon the length of the davit. You can bring your davits close to the water if you like. I consider it perfectly safe to drop a boat 5 or 6 feet.

The CHAIRMAN: Would it not hurt a heavy boat full of men to drop that distance?

Captain SIMPSON: I think not. Five or six feet, I think, is perfectly safe.